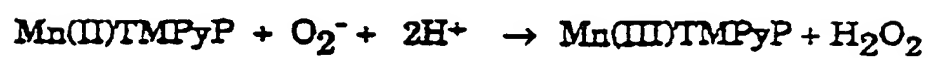
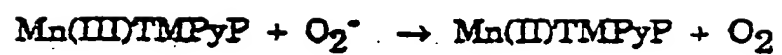


**Figure 1**

**Mechanism**



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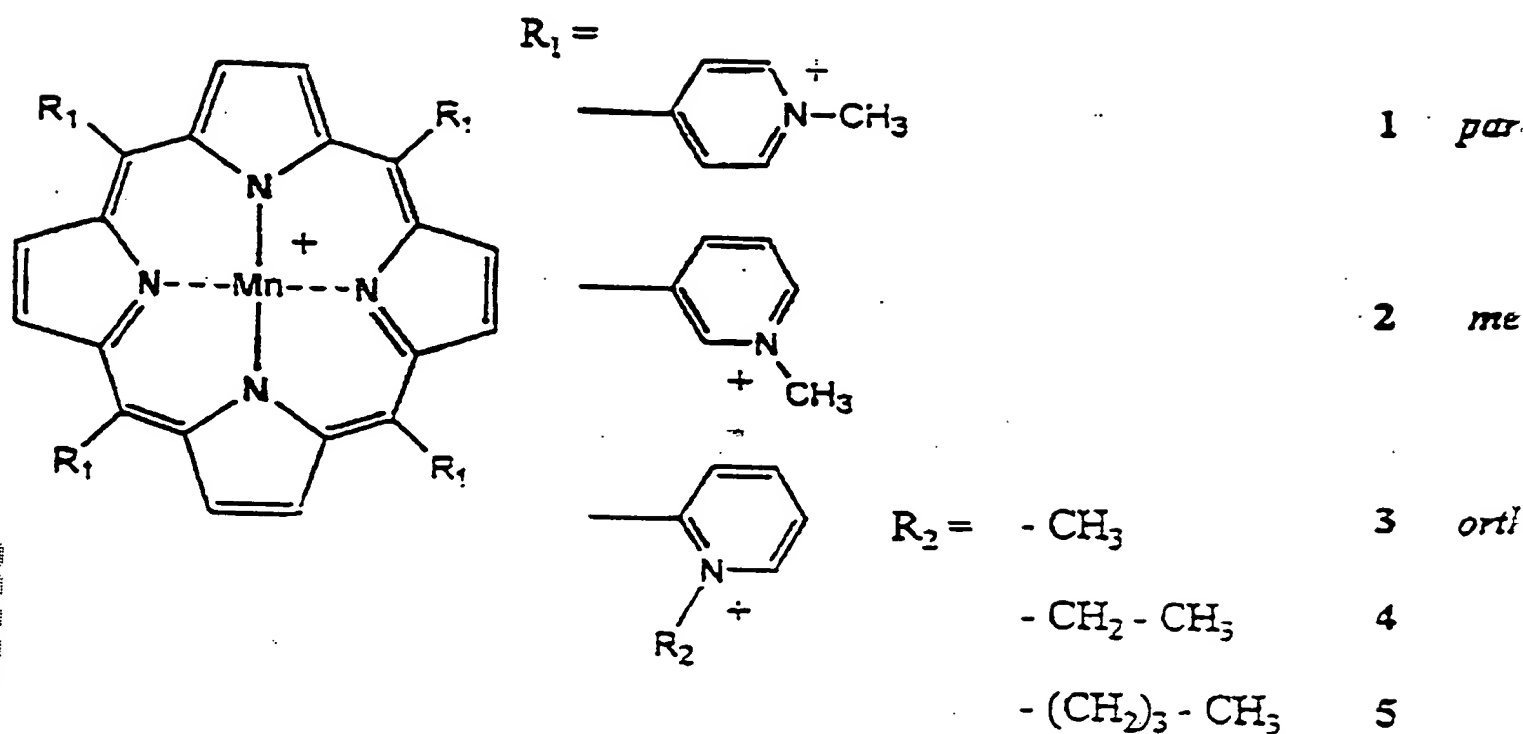
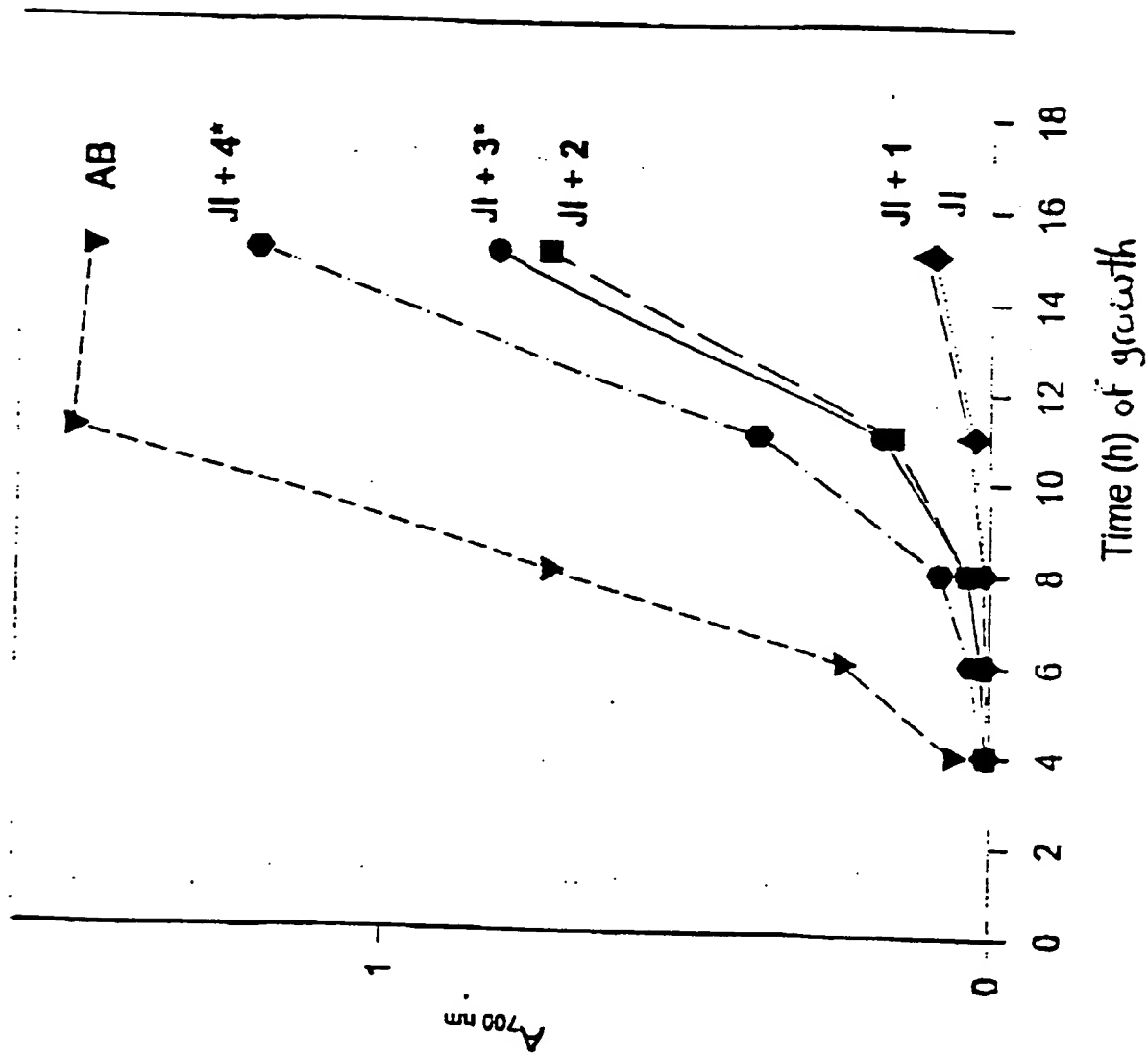


Figure 2. Manganese *meso*-tetraKis —*N*-alkyl-pyridinium based porphyrin

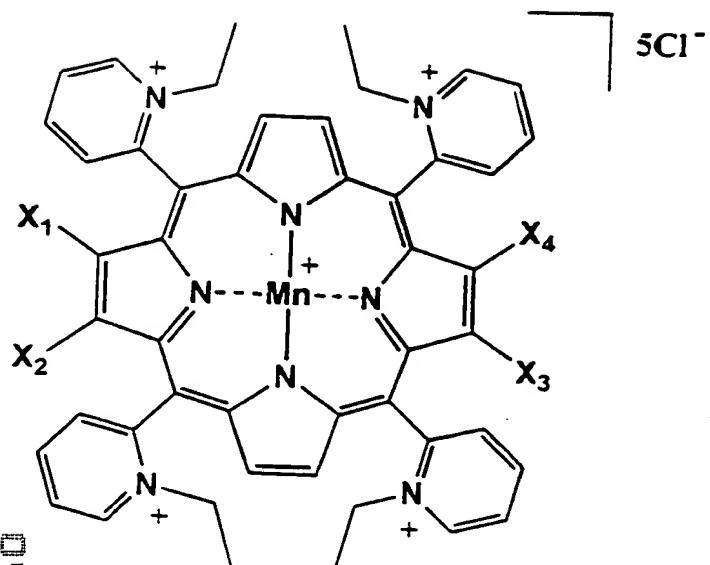


4 = eThyl version

3 = methyl in ortho position  
2 = methyl in meta position

1 = methyl in para position.

Figure 3 SOD activity in vivo (*E. coli*) of 1, 2, 3\* and 4\* (25  $\mu$ M) in minimal medium (\*mixture of atropisomers, JI = SODs deficient strain, AB = parental strain).



**MnTE-2-PyP<sup>5+</sup>**

$X_1=X_2=X_3=X_4=H$

**MnCl<sub>1</sub>TE-2-PyP<sup>5+</sup>**

$X_1=Cl, X_2=X_3=X_4=H$

**MnCl<sub>2</sub>TE-2-PyP<sup>5+</sup>**

$X_1=X_2=Cl, X_3=X_4=H$

**MnCl<sub>3</sub>TE-2-PyP<sup>5+</sup>**

$X_1=X_2=X_3=Cl, X_4=H$

**MnCl<sub>4</sub>TE-2-PyP<sup>5+</sup>**

$X_1=X_2=X_3=X_4=Cl$

**Figure 4**

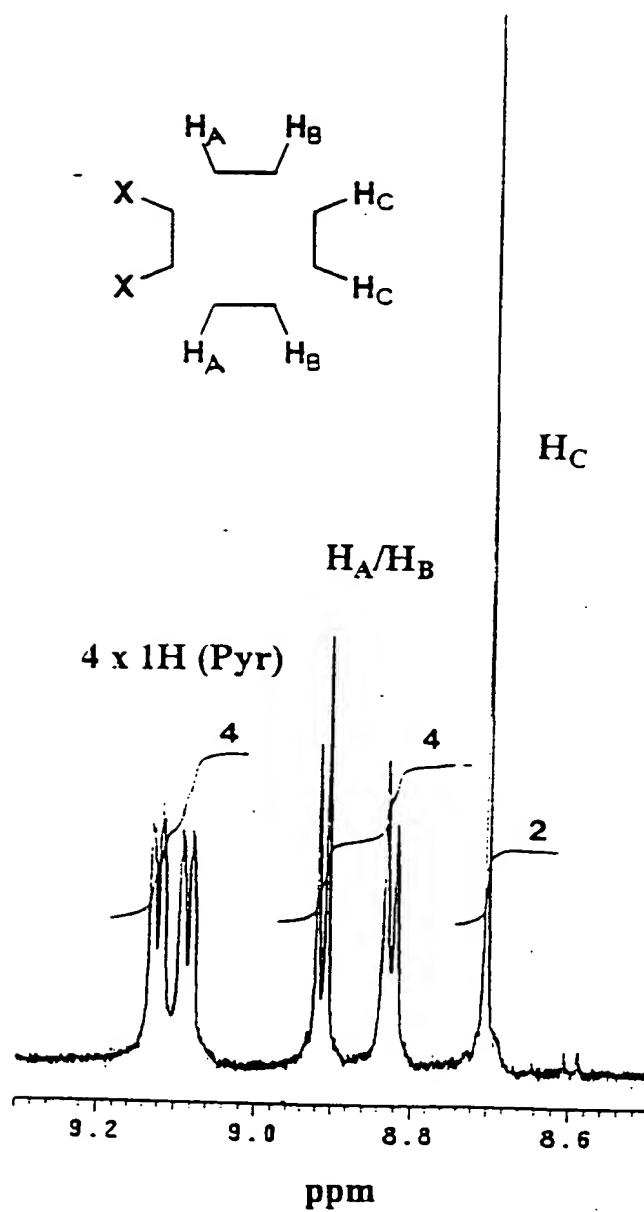


Figure 5

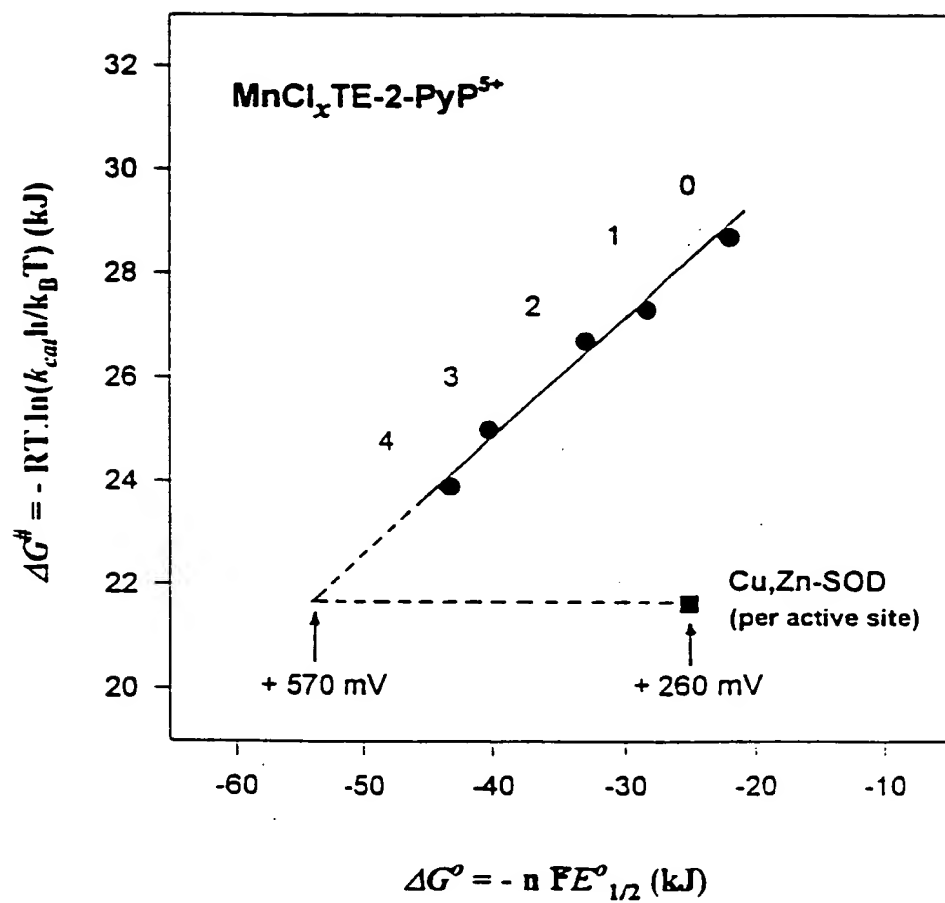
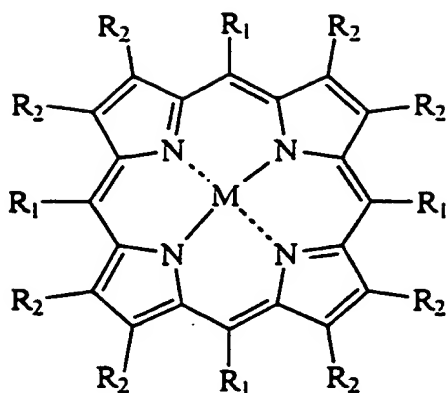


Figure 6

**A**

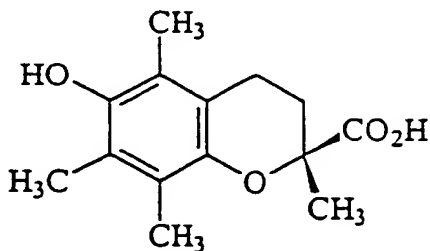


M = Mn<sup>2+/3</sup>, Co<sup>2+/3</sup>, Fe<sup>2+/3</sup>, or Zn<sup>2+</sup>

| R <sub>1</sub> | R <sub>2</sub> |              |
|----------------|----------------|--------------|
|                | H              | [TBAP]       |
|                | H              | [TM-4-PyP]   |
|                | Br             | [OBTM-4-PyP] |
|                | H              | [TM-2-PyP]   |

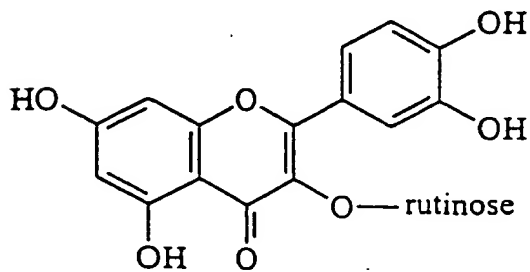
## Metalloporphyrins

**B**



## Trolox

**C**



## (+)-Rutin

Figure 7

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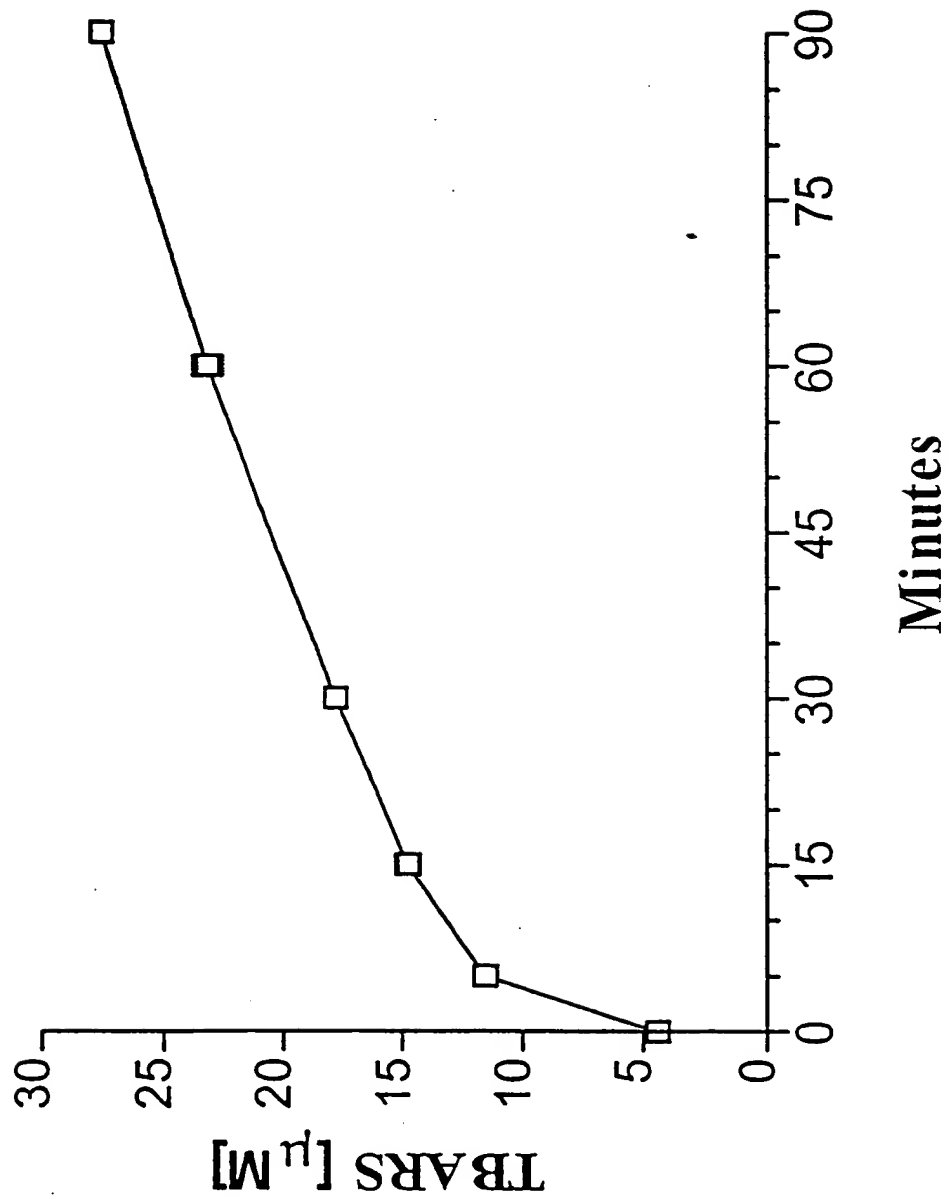


Figure 8



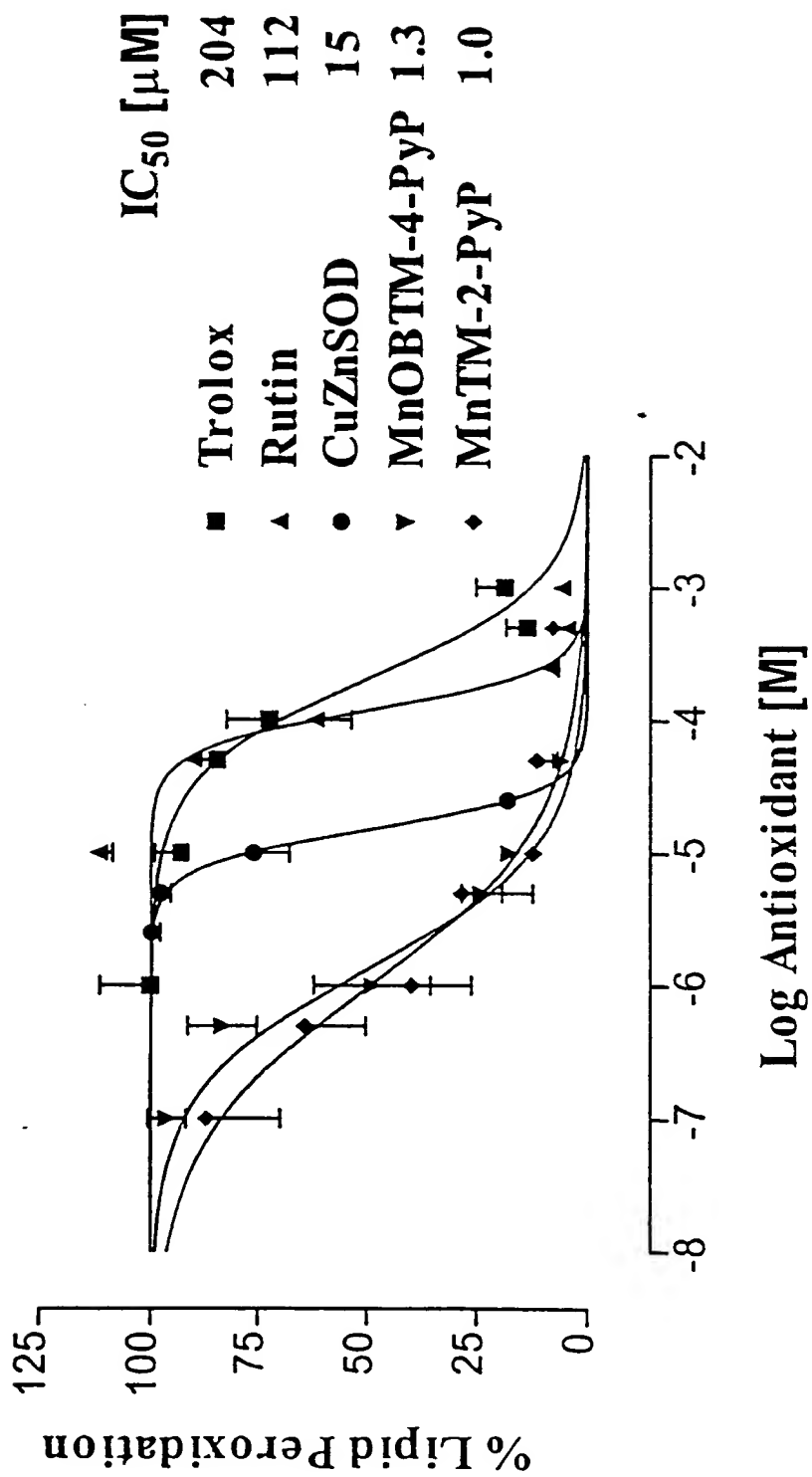


Figure 9

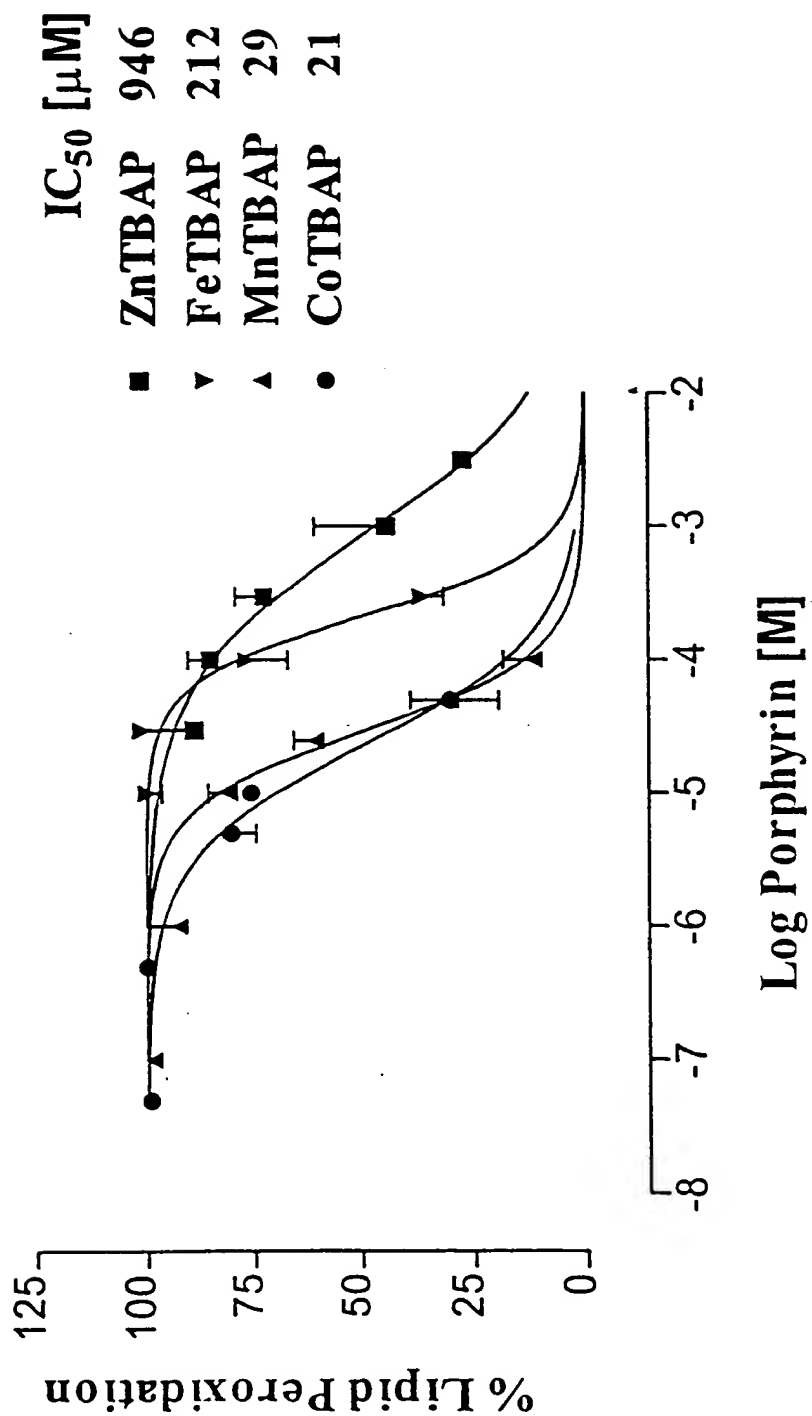


Figure 10

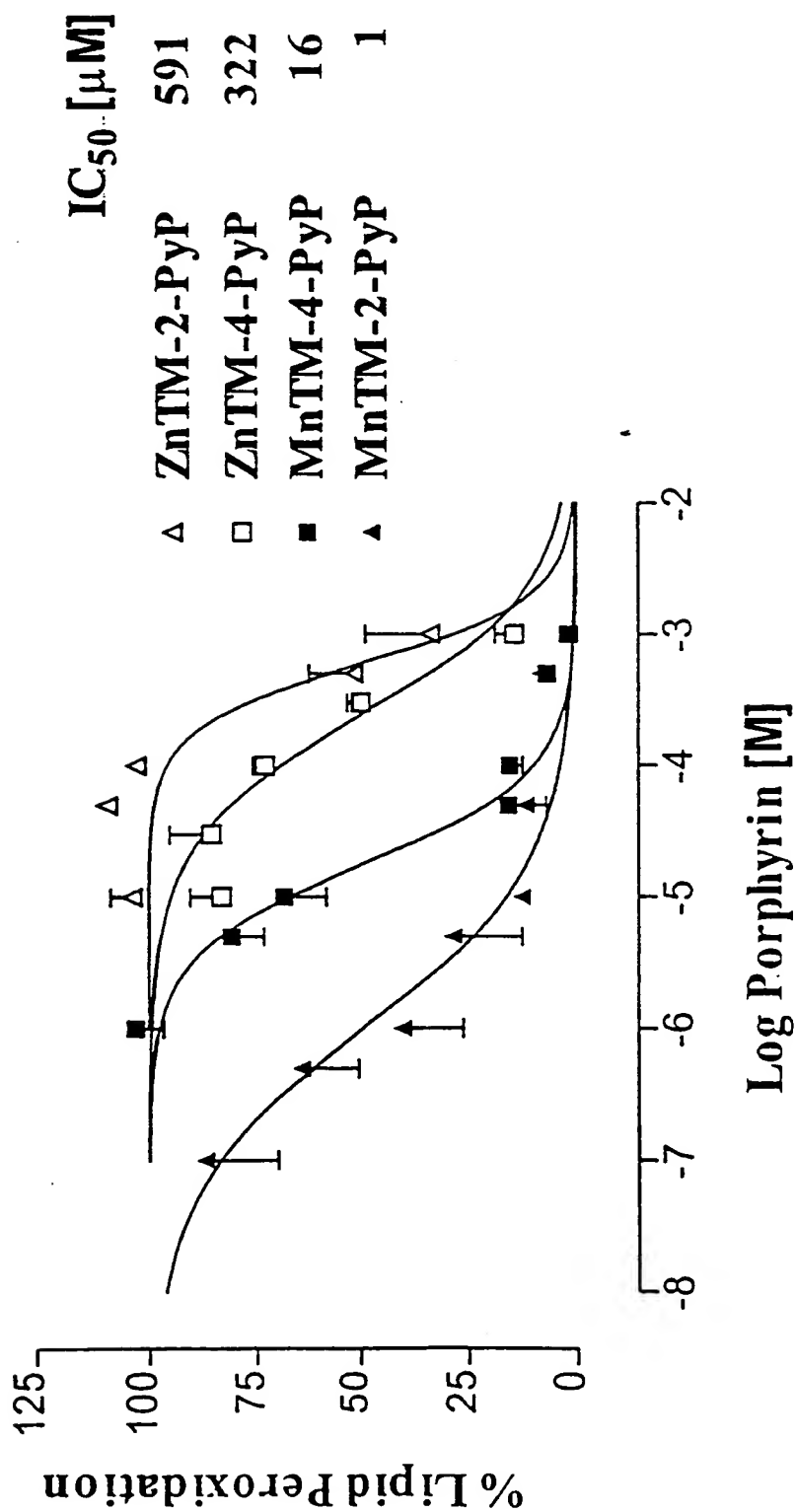


Figure 11